Heat Emergency Plan
2014 Version 1.0

Maryland Department of Health and Mental Hygiene

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Record of Changes

Date	Description	Draft Number
May 2011	First approved Plan	Version 1.0
July 2011	Revised Plan (Corrected minor errors)	Version 1.1
August 2011	Revised Plan Based on LHD Input and AAR	Version 1.2
May 2012	2012 Version 1.0 Approved	2012 Version 1.0
June 2012	Revised Definitions, added recommendations	2012 Version 1.1
July 2012	Revisions throughout plan and in Complex Heat Emergency after week-long incident	2012 Version 2.0
May 2013	Minor revisions throughout plan	2013 Version 1.0
May 2014	Revised Plan Prepared	2014 Version 1.0

Purpose

The Maryland State Heat Emergency Plan, developed by the Maryland Department of Health and Mental Hygiene (DHMH), guides DHMH's actions during an extreme heat event and those of partner agencies and organizations, as defined below. This plan also provides guidance for Local Health Departments (LHDs) to support them as they fulfill their roles; however, it does not mandate that LHDs perform the suggested actions described.

Heat Planning Partners:

DHMH Office of Preparedness and Response
DHMH Office the Chief Medical Examiner
DHMH Office of Healthcare Quality
Mental Health Administration
Developmental Disabilities Administration
Maryland Department on Aging
Maryland Department of Human Resources
Maryland Emergency Management Agency
Maryland Institute for Emergency Medical Services Systems
Public Service Commission
Maryland 2-1-1
National Weather Service

The plan consists of six phases of activities, which have defined triggers for when they begin and end. Phase 1: Pre-Summer, Phase 2: Pre-Event and Phase 6: Post-Summer will occur every year in chronological order, however phases 3-5 deal with different levels of response to heat emergencies and will depend on the weather, from simple notifications to a state-level emergency declaration. Each of these phases will revert back once conditions permit, as defined in the demobilization section of each phase.

Phase 1: Pre-Summer

Pre-summer activity occurs in the spring before temperatures begin to rise. Based on temperature data collected at the Baltimore-Washington International Thurgood Marshall Airport (BWI) and ESSENCE data on Heat-related Illnesses, temperatures in Maryland can begin to spike around early May, although Extreme Heat Events don't usually begin until early June. However, it is important to begin preparing for these events early to ensure all partners are ready to activate during the first Extreme Heat Event.

Triggers

- Pre-summer activities begin in April.

Surveillance

- The National Weather Service (NWS) determines the heat impact in the forecast. The Maryland Emergency Management Agency (MEMA) monitors data from the Sterling, Pittsburgh, Mt. Holly and Wakefield NWS stations.
- DHMH will conduct daily analysis of syndromic surveillance data from hospital emergency departments for indications of an increase in heat-related illness.

DHMH Actions

- Conduct an annual review of the DHMH Heat Emergency Plan and revise and update as necessary. Plan revisions may include, but not be limited to:
    - Coordinate and conduct a conference call with State Partners to review and update planning efforts.
    - Update internal and external partner points of contact.
- Provide guidance and recommend best practices to aid jurisdictions in revising local Heat Emergency Plans as requested.
- Update the DHMH website with links to LHD information.
- Distribute the revised Heat Emergency Plan and Checklists to LHDs and partners.
- Send plan to state and local partners for review.

Recommended Local Health Department Actions

- Conduct an annual review of the jurisdiction's plan:
    - Revise and update local surveillance and communications plans.
        - Prepare generic press releases and local website pages.
    - Review and revise information pertaining to vulnerable populations.
    - Review and revise existing cooling center plans.
    - Review and revise available transportation programs for providing transportation assistance to cooling centers.
- Coordinate with local Emergency Management Agencies (EMAs) to identify and renew expectations of local partners regarding operations activities and actions during an Extreme Heat Event.
- Engage school systems to review set guidelines for conducting and cancelling outdoor activities.
- Coordination with EMAs to begin actively tracking large public events that could have severe public health consequences in an extreme heat event. Key information includes, but is not limited to:
    - What the event is
    - Where it is being held
    - What triggers would result in cancellation
    - What mitigation measures are in place or planned for
    - What tools do they need to manage a potential emergency
- Ensure that heat safety warnings are included with all summer event permits.
- Coordinate with other local agencies Department of Aging, Department of Social Services (DSS) to compile lists of individuals and facilities vulnerable to heat-related health issues.
    - Who are the vulnerable populations?
    - How can they be reached?

Public Information

- DHMH and LHDs will review and revise written and electronic public information materials.

Phase 2: Pre-Event

Triggers

- DHMH and jurisdictions should consider issuing a press release on or just prior to the day of the first Extreme Heat Event, or;
- DHMH and jurisdictions should launch heat planning activities by the third week in June if no Extreme Heat Events have occurred.

Surveillance

- DHMH and LHDs will monitor weather forecasts for the possibility of predicted weather conditions consistent with extreme heat.
- DHMH will distribute weekly reports and analysis of the public health impact of heat-related illnesses. The weekly reports will be made available to the public at a predetermined time every week. These reports will include, but may not be limited to:
    - Temperature Data via the National Weather Service and MEMA.
    - Emergency Department visits for Heat-Related Illness through DHMH's syndromic surveillance system.
    - Number of heat-related deaths reported by the Office of the Chief Medical Examiner (OCME).
    - Heat Advisory Reference Information.
- MEMA will maintain the State's Common Operating Picture (COP), which includes situational information on power outages in the state.
- Maryland Institute for Emergency Medical Services Systems (MIEMSS) monitors EMS systems statewide.

DHMH Actions

- Issue a press announcement just prior to the day of the first Extreme Heat Event or by the third week in June if no Extreme Heat Events have occurred.
- Review and revise this plan following any Extreme Heat Events as necessary.
- Issue revised public education materials to the public on the DHMH website.
- Contact nursing homes to promote summer preparedness, reminding them to check their generators and air conditioning systems and to report real or potential concerns and issues.
- Update the DHMH website with current LHD information.

Recommended Local Health Department Actions

- Monitor the NWS for local temperature data.
- Review planning activities and maintain situational awareness.

Demobilization

- DHMH will proceed to Phase 6 of this plan in mid-September, or;
- When temperatures have cooled below 85 degrees for a period of three or more weeks.

Phase 3:Extreme Heat Event – Heat Advisory

Triggers

- The NWS has issued a Heat Advisory, or;
- Temperatures meeting the criteria for a Heat Advisory are likely within the next 12 to 48 hours.

Surveillance

- DHMH will maintain situational awareness on vulnerable facilities.
- DHMH will continue to monitor syndromic surveillance systems and issue the weekly report outlined in Phase 2.
- DHMH and MEMA will monitor NWS forecasts for any indication of Extreme Heat.
- MEMA will monitor power outages.

DHMH Actions

- Notify the jurisdictions expected to be impacted by the Extreme Heat Event.
    - The DHMH advisory will also be sent to other state agencies.
    - DHMH may choose to make the advisory public through release to media outlets, posting on select state agency websites and other means deemed appropriate, including social media.
- Review Extreme Heat checklists and begin taking appropriate actions.
- Coordinate with MIEMSS to issue FRED alerts when appropriate.
- Coordinate with MEMA to maintain situational awareness and gauge the potential impact of the anticipated event.
    - DHMH may conduct conference calls to discuss potential impact of the event with stakeholders if the situation permits.
        - Internal DHMH Staff
        - Local Health Department Staff
        - The Joint Operations Group

Recommended Local Health Department Actions

- Report information regarding local facilities in crisis to DHMH.
- Notify local extreme heat planning partners, including DSS, Aging, EMA and Department of Fire and Rescue Services (DFRS).
- Consider activating any local cooling center plans and notify DHMH with a press release or Web link to the facility locations.
    - EMAs should notify MEMA of these events.
- Consider activating any applicable transportation assistance programs for vulnerable populations to be transported to cooling centers.

- Coordinate with EMAs for recommending heightening mitigation protections for or discouraging outdoor public events.
- Review plans for extra staffing and emergency support services and stage potential resources.
- Coordinate with relevant organizations to provide outreach to vulnerable populations.
    - Coordinate with existing volunteers and partners for responding to extreme heat.
- Coordinate public messaging with public access numbers such as nonemergency dispatch, 211, 311 or using reverse 911 systems.

Public Information

- DHMH will coordinate with each jurisdiction on Extreme Heat Event communications.
- LHDs should provide all locally used call centers (911, 211, hospital and private 'Ask a Nurse' lines) information on cooling centers and transportation options.
- DHMH and LHDs will employ consistent messaging that urges individuals to check on elderly neighbors and family members.
- DHMH and LHDs will include Pet Emergency Preparedness for heat-related illness prevention in messaging. Resources can be found at Ready.gov[1]

Demobilization

- DHMH will revert to Phase 2 when temperatures drop back below 100 degrees.

Phase 4: Extreme Heat Event – Excessive Heat Warning

Triggers

- The NWS has issued an Excessive Heat Warning, or;
- Temperatures meeting the criteria for an Excessive Heat Warning are likely within the next 12 to 48 hours, or;
- Temperatures meeting the criteria for a Heat Advisory are expected to continue for three or more days.

DHMH Actions

DHMH will take all the actions outlined in Phase 3: Extreme Heat Event – Heat Advisory and:

- Engage 211 as a public access number for heat-related questions; provide 211 with up-to-date public messaging materials.
- Conduct conference calls to discuss potential impact of event with stakeholders. The calls may include, but are not limited to:
    - Internal DHMH Staff
    - Local Health Department Staff
    - The Joint Operations Group
- Gather information on designated cooling centers to report to MEMA.
- Coordinate with MEMA in preparation for a potential Complex Heat Emergency.
- Supply local health departments with updated lists of licensed facilities for tracking.

[1] http://www.ready.gov/america/getakit/pets.html

- Recommend to DHR and MDoA to update and monitor any lists of vulnerable nonmedical facilities, such as assisted living facilities.

Recommended Local Health Department Actions

- Provide DHMH with updated information on local cooling centers.

Demobilization

- DHMH will revert to Phase 2 when temperatures drop back below 100 degrees.

Phase 5: Complex Heat Emergency

Triggers

- DHMH and MEMA will use discretion in deciding what conditions constitute a complex heat emergency, which may include, but are not limited to:
    - Significant power or water outages, or;
    - Extended Heat Waves lasting more than three days;
    - Any other factors that would exacerbate a Heat Emergency.
- MEMA will escalate the State Response Operations Status Level, as appropriate to facilitate interagency coordinatation

Surveillance

- DHMH will begin issuing the Daily Heat-Related Illness Surveillance Report through the duration of the emergency.
    - The final Daily Report will be issued the day following the final Heat Advisory day, with surveillance data from the final Extreme Heat day.
    - The disbursement of death data will follow a prescribed flow of information due to the overwhelming number of requests for information during these events. Considerations in the process include, but are not limited to:
        - OCME Death Data will be routed internally to the Office of Preparedness & Response.
        - Local Health Officers or their designee will be notified of the details of deaths in their jurisdiction by DHMH.
        - The daily report is sent to planning partners and posted to the DHMH website.
- MEMA will map heat deaths and 911 calls reported by MIEMSS with heat-related illness as a chief complaint for use in targeting vulnerable population outreach.
    - MEMA will also monitor power outages, social media, special events and weather.

DHMH Actions

DHMH will take all the actions outlined in Phase 4: Extreme Heat Event – Excessive Heat Warning as applicable and:

- Conduct regular conference calls to discuss potential impact of event with stakeholders. The calls may include, but are not limited to:
    - Internal DHMH Staff

    - Local Health Department Staff
    - The Joint Operations Group
- Coordinate with MEMA, the Department of Human Resources (DHR), the Department on Aging (MDoA), the Developmental Disabilities Administration (DDA), Mental Health Administration (MHA),LHDs and other organizations as necessary to determine if facilities with vulnerable populations need additional assistance.
    - Facilities include, but are not limited to:
        - Dialysis Centers
        - Nursing Homes
        - Assisted Living Facilities
- Recommend that MEMA request information from local EMAs on events that may be affected by the complex heat emergency.
- Coordinate with MEMA to activate widespread power outage plans as necessary.
- Coordinate with MEMA to decide whether MEMA should assume incident command for the Heat Incident and begin coordinating Emergency Support Functions in support of response.
- Recommend that MEMA and Local Emergency Management coordinate with local emergency services to report any facilities encountered with excessively hot interiors that may pose a danger to residents.

Recommended Local Health Department Actions

- Notify EMAs of any large-scale public events known to the LHD that have the potential to result in a mass casualty incident.
    - Local EMAs will notify MEMA, DHMH and MIEMSS of the above events.
- Consider applicability of requiring greater mitigation measures for outdoor public events.
- Expand cooling center capacity as necessary and notify state officials.

Water Shortages

- In the event of a widespread and/or prolonged water shortage, the Jurisdiction's Health Department and the Department of Public Works should consider providing alternative potable water to affected residents. Resources can also be requested through local EMA.
- Consider requesting assistance from the private sector in providing and distributing water.

Power Outages

- In the event of a widespread and/or prolonged power outage, DHMH will coordinate with MEMA, the Public Service Commission and Power Companies to monitor power loss in vulnerable facilities.
- Pharmacy restrictions on the ability to renew prescriptions may be lifted.

Public Information

- MEMA will activate a Joint Information Center (JIC) to address public messaging.
- MEMA and DHMH, through the JIC, will use 211 or public access numbers to distribute heat emergency information.
- Local Jurisdictions, MTA and SHA will utilize existing digital signage (such as outside firehouses, other public buildings or on public buses) to display concise heat safety tips.

- Heat Prevention Messages include, but are not limited to:
    - Stay in a cool place.
    - If you do not have air conditioning:
        - Visit cooling centers in your area.
        - Go to the mall, a movie theater, or the home of friend with air conditioning.
    - Check on your neighbors, friends and family frequently, several times a day if possible. The socially isolated and elderly are most at risk during the heat.
    - Drink plenty of fluids like water, but avoid alcohol and caffeinated beverages.
    - If you or someone you know is experiencing headaches, confusion, dizziness, nausea or a rapid heartbeat, get immediate medical attention.
    - Never leave children or pets alone in a car.
    - Call 211, 311 or another public access number to report nonmedical emergencies or to request a ride to a cooling center.

Demobilization

- DHMH will revert to a previous phase once the complicating factors have been resolved, and;
- MEMA will de-escalate the State Response Operations Status Level, and;
- DHMH will revert to Phase 5if an Excessive Heat Warning is in effect, or;
- DHMH will revert to Phase 4 if a Heat Advisory is in effect, or;
- DHMH will revert to Phase 2 if temperatures have dropped back below 100 degrees.

Phase 6: Post-Summer

The post-summer activities typically begin in mid-September and include After Action Reporting and planning for the next operational period.

Triggers

- Post-summer activities begin in September.

DHMH Actions

- Cease circulation of weekly heat reports in September.
- Where applicable, collect After Action Reports from the jurisdictions and determine best practices to be included in the following year's planning efforts.
- Collect, analyze and release statewide surveillance data from the summer for use in future heat planning.
- Review and update Extreme Heat Plan, including a comprehensive review of local plans and resources, to be completed and posted by May 1.

Recommended Local Health Department Actions

- Cease heat-event monitoring and return cooling centers to normal hours if applicable.

- Coordinate with DHMH on an annual heat plan review.
- Identify organizations serving high-risk populations that can be utilized in the following season.
- Develop or revise information on high-risk individuals.
- Coordinate with local partners to identify lists of individuals and facilities that would be vulnerable during a heat emergency.
- Develop or revise an accessible record on facilities and locations from OHCQ.
- Conduct an evaluation of interventions:
    - Review evaluation tools to monitor effectiveness
        - Cooling center usage
        - Transportation program usage, if available

Death Reporting Protocol

Authority to Release Data

Heat death data is transmitted to the Office of Preparedness and Response (OP&R) from the Office of the Chief Medical Examiner (OCME) electronically. The authority to release death data resides in the Deputy Secretary. Typically, The Department will release death data in weekly reports. During a heat emergency, the reports will be issued daily or at a frequency specified by the Deputy Secretary for Public Health Services.

Heat-Related Death Definition

A death is determined to be heat-related when *the investigation indicates that person was exposed to excess heat* and any or some of the following scenarios occur:
1) The person exhibited signs or symptoms of heat-related illness prior to collapse
2) The person was participating in an activity that caused exertion
3) The person had underlying medical conditions which may have been exacerbated by the heat
4) An autopsy was conducted in which there was no apparent acute anatomic cause of death

Frequency of Reporting

The DHMH Heat Emergency Plan specifies two types of reports: Weekly and Daily. The Weekly Extreme Heat Reports are sent on a routine basis throughout the summer. These reports will be issued every Wednesday and include information from the previous week.

During a Complex Heat Emergency, the Heat Emergency Plan calls for daily reporting of deaths due to extreme heat. The decision to begin issuing these reports and the frequency of reporting shall be set by Deputy Secretary. The Deputy Secretary may specify an alternative frequency of reporting.

Report Characteristics

The reports will include the following information on heat-related deaths:

- Date of Death
- Age Group
- Gender
- County of Incident

DHMH will report the total number of deaths and aggregated data during the specified release frequency. At least 20 minutes prior to public posting, DHMH will circulate the report to the local Health Officers.

Definitions

Complex Heat Emergency – A Complex Heat Emergency is a condition of an Extreme Heat Event with complications requiring additional response. Examples of such complications are water or power shortages or an extended heat wave.

Cooling Centers – The actual definition of a 'cooling center' may vary from county to county. For the purposes of this plan, a cooling center refers to a building identified by local authorities with air conditioning and water. A cooling center does not necessarily provide medical services. Cooling center plans may identify general locations such as public libraries or malls where the LHD recommends going to escape the heat, or designating locations such as community centers with extended hours and bottled water.

Excessive Heat Warning– The National Weather Service issues an Excessive Heat Warning when the heat index is expected to exceed 110 degrees or conditions are such to pose a risk to life and property.

Excessive Heat Watch – These are issued when conditions are favorable for an excessive heat event in the next 12 to 48 hours. A Watch is used when the risk of a heat wave has increased, but its occurrence and timing are still uncertain. A Watch provides enough lead time so those who need to prepare can do so, such as cities that have excessive heat event mitigation plans.

Extreme Heat Event – An Extreme Heat Event is a weather condition with excessive heat and/or humidity that has the potential to cause heat-related illnesses. An Extreme Heat Event is defined as a day or series of days when:

- The National Weather Service has issued a Heat Advisory or Extreme Heat Warning, or;
- Weather or environmental conditions are such that a high incidence of heat-related illnesses can reasonably be expected.

Heat Advisory – The National Weather Service issues a Heat Advisory when the ambient temperature is expected to rise about 100 degrees Fahrenheit or the Heat Index is expected to reach 105 to 110 degrees. When determining the first Heat Advisory for the summer these thresholds are lower.

Heat Index – The Heat Index is a measure of what the temperature actually feels like. The heat index is a combination of both the actual temperature and humidity, and is the best indicator for a pending Extreme Heat Event. The Heat Index is the key indicator of an Extreme Heat Event by the National Weather Service.[2]

Heat-related Illness – A Heat-related Illness is a condition caused by extreme heat, usually dehydration, heat exhaustion, heat stroke or a medical condition exacerbated by heat events.

[2] http://www.weather.gov/om/heat/index.shtml

Heat Cramps– Painful muscle spasms in the abdomen, arms or legs following strenuous activity. The skin is usually moist and cool, and the pulse is normal or slightly raised. Body temperature is mostly normal. Heat cramps often are caused by a lack of salt in the body.

Heat Exhaustion–A condition characterized by faintness, rapid pulse, nausea, profuse sweating, cool skin and collapse, caused by prolonged exposure to heat accompanied by loss of adequate fluid and salt from the body.

Heat Stroke– A severe condition caused by impairment of the body's temperature-regulating abilities, resulting from prolonged exposure to excessive heat and characterized by cessation of sweating, severe headache, high fever, hot dry skin, and, in serious cases, collapse and coma.

High-Risk Groups – High-Risk Groups are populations that are disproportionately affected by Extreme Heat Events. These groups include children and youth athletes, individuals who may be socially isolated (such as the elderly or those with psychiatric illness) and individuals with medical risk factors, such as alcoholism, cardiovascular or pulmonary disease, hypertension, diabetes or tobacco use.